TRANSYS ELECTRONICS LIMITED

# TS200R THRU T S2010R

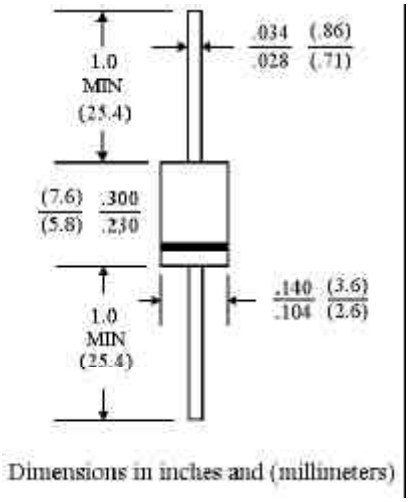
FAST SWITCHING PLASTIC RECTIFIER

VOLTAGE - 50 to 1000 Volts  CURRENT - 2.0 Amperes

## FEATURES

- High current capab ity
- Plastic package has Underwriters Laboratory
- Flammab ity Classification 94V-O ut izing
- Flame Retardant Epoxy Molding Compound
- 2.0 ampere operation at $T_A$=55 ¢J with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency
- Low leakage

DO-15




Dimensions in inches and (millimeters)

## MECHANICAL DATA

Case: Molded plastic , DO-15

Terminals: Phated axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.015 ounce, 0.4 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ¢J ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

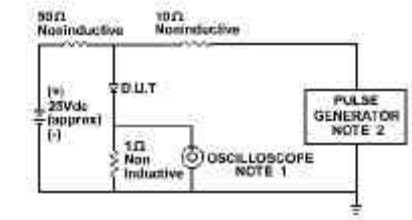
| | TS200R | TS201R | TS202R | TS204R | TS206R | TS208R | S2010R | UNITS |
|---|---|---|---|---|---|---|---|---|
| Peak Reverse Voltage, Repetitive; $V_{RM}$: | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at $T_A$=55 ¢J | 2.0 | | | | | | | A |
| Peak Forward Surge Current, $I_{FM}$(surge) 8.3msec. single half sine-wave superimposed on rated load (JEDEC method) | 70.0 | | | | | | | A |
| Maximum Forward Voltage at 2.0A DC | 1.3 | | | | | | | V |
| Maximum Reverse Current $T_J$=25 ¢J<br>at Rated DC Blocking Voltage $T_J$=100 ¢J | 5.0<br>500 | | | | | | | £gA<br>£gA |
| Typical Junction capacitance (Note 1) CJ | 35 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) R £KJA | 22 | | | | | | | ¢J/W |
| Maximum Reverse Recovery Time(Note 2) | 150 | 150 | 150 | 150 | 250 | 500 | 500 | ns |
| Operating and Storage Temperature Range $T_J$,$T_{STG}$ | -55 TO +150 | | | | | | | ¢J |

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
2. Reverse Recovery Test Conditions: $I_F$=.5A, $I_R$=1A, I =.25A
3. Thermal Resistance from Junction to Ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B. mounted.

RATING AND CHARACTERISTIC CURVES

TS200R THRU T S2010R




NOTE:1.Rise Time = 7ns max.
Input Impedance = 1 megohm. 22pF
2.Rise Time = 10ns max.
Source Impedance = 50 Ohms

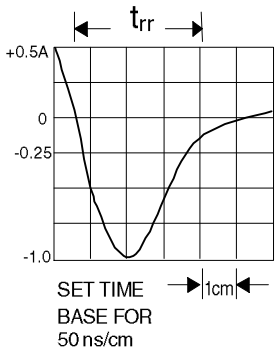



Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

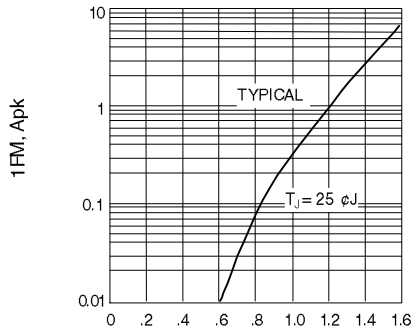



Fig. 2-FORWARD CHARACTERISTICS

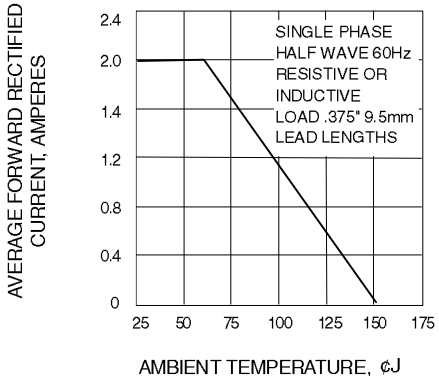



Fig. 3-FORWARD CURRENT DERATING CURVE

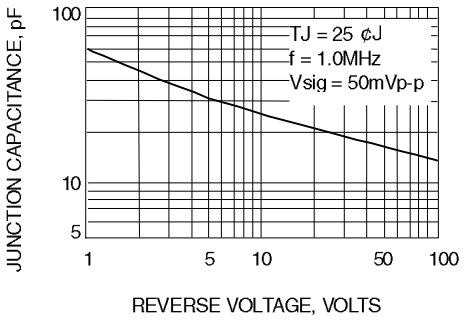



Fig. 4-TYPICAL JUNCTION CAPACITANCE

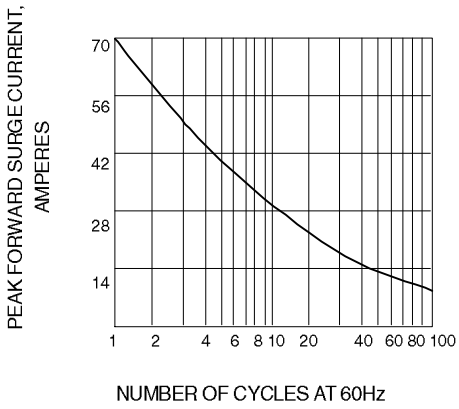



Fig. 5-PEAK FORWARD SURGE CURRENT